

**Table C-A2-39. Proposed action matrices for the UCR steelhead Methow River population, given EM = 0.743**

Methow Steelhead		Heff	Base (1980-99)				HCP Actions + Current FCRPS			
Rel. effectiveness of hatch spawners	Average fecundity		0.25	0.5	0.75	1	0.25	0.5	0.75	1
Prespawn Mortality	mx	5000	5000	5000	5000	5000	5000	5000	5000	
Upriver Harvest (Adj to post 95)	ps	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Mainstem Harvest (1980+avg)	harv_sb_mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
.97 per project - 9 projects	harv_ms_mean	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	
	Conv. Rte Mid C	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
	Conv. Rte FCRPS	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
	convers_mean	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	
	mu	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	
Ocean survival	age 2-3	s3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
	age 3-4	s4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
	age 4-5	s5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
	age 5-6	s6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
Proportion of McNary Smits Transp.	Pt	0.5	0.5	0.5	0.5	0	0	0	0	
McNary Pool X barge survival	Sb	0.83	0.83	0.83	0.83					
Surv. To below PRIEST RAPIDS	Mid C projects	0.55	0.55	0.55	0.55	0.69	0.69	0.69	0.69	
Surv. MCN TO BELOW BONN	Lower Projects	0.55	0.55	0.55	0.55	0.575	0.575	0.575	0.575	
Downstream Passage Survival	Sd	0.30	0.30	0.30	0.30	0.40	0.40	0.40	0.40	
Survival to below Bonn.	direct_hydro	0.38	0.38	0.38	0.38	0.40	0.40	0.40	0.40	
Prop. Below Bonn by barge	Pbt	0.60	0.60	0.60	0.60	0.00	0.00	0.00	0.00	
Delayed effect of barging	(1-Delayed Mort.)	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	
FCRPS Only	D	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Total, Including Mid-C	direct_ind_FCRPS	0.178	0.178	0.178	0.178	0.148	0.148	0.148	0.148	
Total, Including Mid-C	direct_indirect	0.098	0.098	0.098	0.098	0.102	0.102	0.102	0.102	
	indirect_m	0.859	0.859	0.859	0.859	0.822	0.822	0.822	0.822	
<b>juv'adult</b>										
Total survival Bonn to Adult	se	0.036	0.023	0.017	0.014	0.045	0.029	0.021	0.018	
Relative Survival - Hydro effect	hydro_se	0.141	0.141	0.141	0.141	0.178	0.178	0.178	0.178	
Survival in absence of Hydro	natural_se	0.254	0.163	0.120	0.099	0.254	0.163	0.120	0.099	
Includes D mortality	s2 (calculated here)	0.014	0.009	0.006	0.005	0.018	0.011	0.008	0.007	
From smolt at RI data	(smits/spawner)	157.6	118.6	95.4	89.8	1.1	173.36	130.46	104.94	
Corresponding egg-smolt	s1	0.063	0.047	0.038	0.036	0.069	0.052	0.042	0.040	
	<b>Ocean survival</b>	<b>0.668</b>	<b>0.668</b>	<b>0.668</b>	<b>0.668</b>	<b>0.668</b>	<b>0.668</b>	<b>0.668</b>	<b>0.668</b>	
Prop. Maturing at age 2	b2	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	
Prop. Maturing at age 3	b3	0.330	0.330	0.330	0.330	0.330	0.330	0.330	0.330	
Prop. Maturing at age 4	b4	0.693	0.693	0.693	0.693	0.693	0.693	0.693	0.693	
Prop. Maturing at age 5	b5	0.923	0.923	0.923	0.923	0.923	0.923	0.923	0.923	
Matrix Cells	R1	0	0	0	0	0	0	0	0	
	R2	0	0	0	0	0	0	0	0	
	R3	30.29	22.79	18.33	17.26	33.32	25.07	20.17	18.98	
	R4	63.66	47.91	38.54	36.27	70.03	52.70	42.39	39.90	
	R5	84.75	63.78	51.30	48.29	93.23	70.16	56.43	53.12	
	R6	91.85	69.12	55.60	52.34	101.04	76.03	61.16	57.57	
	a12	0.014	0.009	0.006	0.005	0.018	0.011	0.008	0.007	
	a23	0.793	0.793	0.793	0.793	0.793	0.793	0.793	0.793	
	a34	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.536	
	a45	0.246	0.246	0.246	0.246	0.246	0.246	0.246	0.246	
	a56	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	
Hit Control-B	Lambda	0.952	0.787	0.689	0.647	1.0482	0.8645	0.7562	0.7089	
	equation	(0.00)	(0.00)	(0.00)	(0.00)	1.10	1.10	1.10	1.10	
	Survival Change from Action					1.44	1.44	1.44	1.44	
	Lambda Change ( $s^{(1/3.8)}$ )					1.10	1.10	1.10	1.10	
	Needed Survival Change for 5% Extinction in 100 Years (QAR)	1.00	2.15			0.694		1.493		
	Needed Survival Change for 5% Extinction in 100 Years (CRI)	4.32	50.37			3.002		34.975		
	Needed Survival Change for 5% Extinction in 24 Years (QAR)	1.00	1.00			0.694		0.694		
	Needed Survival Change for 5% Extinction in 24 Years (CRI)	1.67	20.36			1.162		14.135		

**Table C-A2-40. Worksheet for the Snake River Steelhead incremental analysis, given EM = 0**

From SIMPAS 6/14/00 Results

1-Delayed Mort of Non- Trans.										Total				
										Juv.	Check:			
										Direct+	Indirect	Total Juv.	Adult Survival	Total Juv.
D	Year	To Salt	To Salt River	To Salt	Transport	Pt	Sb	Sd						
Current	0.52	1.00	1994 WY	0.697	0.001	0.696	0.710	0.980	0.003	0.363	0.697	<b>0.796</b>	0.289	
	0.52	1.00	1995WY	0.817	0.114	0.703	0.717	0.980	0.403	0.480	0.817	0.796	0.381	
	0.52	1.00	1996 WY	0.823	0.100	0.724	0.739	0.980	0.383	0.476	0.824	0.796	0.379	
	0.52	1.00	1997 WY	0.863	0.094	0.769	0.785	0.980	0.437	0.494	0.863	0.796	0.393	
	0.52	1.00	1998 WY	0.803	0.068	0.735	0.750	0.980	0.272	0.450	0.803	0.796	0.358	
	0.52	1.00	1999 WY	0.719	0.069	0.650	0.663	0.980	0.205	0.407	0.719	0.796	0.324	
	0.58	1.00	1994 WY	0.697	0.001	0.696	0.710	0.980	0.003	0.405	0.697	0.796	0.322	
	0.58	1.00	1995 WY	0.817	0.114	0.703	0.717	0.980	0.403	0.522	0.817	0.796	0.415	
	0.58	1.00	1996 WY	0.823	0.100	0.724	0.739	0.980	0.383	0.520	0.824	0.796	0.414	
	0.58	1.00	1997 WY	0.863	0.094	0.769	0.785	0.980	0.437	0.540	0.863	0.796	0.430	
	0.58	1.00	1998 WY	0.803	0.068	0.735	0.750	0.980	0.272	0.494	0.803	0.796	0.393	
	0.58	1.00	1999 WY	0.719	0.069	0.650	0.663	0.980	0.205	0.446	0.719	0.796	0.355	
<b>Mean</b>										<b>0.466</b>	<b>0.787</b>	<b>0.371</b>		
Aggressive	0.52	1.00	1994 WY	0.723	0.001	0.722	0.737	0.980	0.004	0.376	0.723	0.851	0.320	
	0.52	1.00	1995WY	0.766	0.291	0.476	0.486	0.980	0.566	0.539	0.767	0.851	0.458	
	0.52	1.00	1996 WY	0.794	0.220	0.574	0.586	0.980	0.531	0.518	0.794	0.851	0.441	
	0.52	1.00	1997 WY	0.804	0.235	0.569	0.581	0.980	0.560	0.531	0.804	0.851	0.452	
	0.52	1.00	1998 WY	0.716	0.206	0.510	0.520	0.980	0.430	0.471	0.716	0.851	0.401	
	0.52	1.00	1999 WY	0.666	0.196	0.469	0.479	0.980	0.376	0.440	0.665	0.851	0.374	
	0.58	1.00	1994 WY	0.723	0.001	0.722	0.737	0.980	0.004	0.420	0.723	0.851	0.357	
	0.58	1.00	1995 WY	0.766	0.291	0.476	0.486	0.980	0.566	0.567	0.767	0.851	0.483	
	0.58	1.00	1996 WY	0.794	0.220	0.574	0.586	0.980	0.531	0.553	0.794	0.851	0.471	
	0.58	1.00	1997 WY	0.804	0.235	0.569	0.581	0.980	0.560	0.565	0.804	0.851	0.481	
	0.58	1.00	1998 WY	0.716	0.206	0.510	0.520	0.980	0.430	0.502	0.716	0.851	0.427	
	0.58	1.00	1999 WY	0.666	0.196	0.469	0.479	0.980	0.376	0.468	0.665	0.851	0.398	
<b>Mean</b>										<b>0.496</b>	<b>0.745</b>	<b>0.851</b>	<b>0.422</b>	
4-Pool Drawdown	0.52	1.00	1994 WY	0.355	0.355	0.000	0.000	0.980	0.355	0.355	0.355	0.851	0.302	
	0.52	1.00	1995WY	0.709	0.709	0.000	0.000	0.980	0.709	0.709	0.709	0.851	0.604	
	0.52	1.00	1996 WY	0.705	0.705	0.000	0.000	0.980	0.705	0.705	0.705	0.851	0.600	
	0.52	1.00	1997 WY	0.683	0.683	0.000	0.000	0.980	0.683	0.683	0.683	0.851	0.581	
	0.52	1.00	1998 WY	0.615	0.615	0.000	0.000	0.980	0.615	0.615	0.615	0.851	0.523	
	0.52	1.00	1999 WY	0.641	0.641	0.000	0.000	0.980	0.641	0.641	0.641	0.851	0.545	
	0.58	1.00	1994 WY	0.355	0.355	0.000	0.000	0.980	0.355	0.355	0.355	0.851	0.302	
	0.58	1.00	1995 WY	0.709	0.709	0.000	0.000	0.980	0.709	0.709	0.709	0.851	0.604	
	0.58	1.00	1996 WY	0.705	0.705	0.000	0.000	0.980	0.705	0.705	0.705	0.851	0.600	
	0.58	1.00	1997 WY	0.683	0.683	0.000	0.000	0.980	0.683	0.683	0.683	0.851	0.581	
<b>Mean</b>										<b>0.618</b>	<b>0.618</b>	<b>0.851</b>	<b>0.526</b>	

## Aggressive Project Survival

	LGR	LGO	LMN	IHR	MCN	JDA	TDI	BON	Total	MCN-BON
1994 WY	0.758	0.818	0.879	0.851	0.812	0.673	0.877	0.798	0.177	0.382
1995 WY	0.950	0.923	0.975	0.951	0.942	0.910	0.952	0.935	0.620	0.763
1996 WY	0.941	0.927	0.977	0.951	0.942	0.910	0.947	0.933	0.614	0.758
1997 WY	0.968	0.978	0.936	0.920	0.923	0.906	0.942	0.931	0.598	0.734
1998 WY	0.935	0.945	0.924	0.902	0.906	0.851	0.940	0.913	0.486	0.661
1999 WY	0.843	0.941	0.947	0.920	0.923	0.931	0.955	0.839	0.476	0.689
Mean									0.495	0.664

Free-Flowing Snake Survival

0.999656 Per-km (WB Only)  
210 km in Snake  
**0.930318** survival through Snake

Natural River Survival

0.999656                    Per-km (WB Only)  
               512                    km in FCRPS  
**0.838533**                    survival through FCRPS

**Table C-A2-41. Worksheet for the Snake River Steelhead incremental analysis, given EM = 0.709**

From SIMPAS 6/14/00 Results

1-Delayed Mort of Non- Trans.								Total Juv.				Check:		
Current	D	Year	To Salt In- River		To Salt Transport		Pt	Sb	Sd	Direct+ Indirect		Total Juv.	Adult	Total Juv. * Adult
			To Salt		Pt	Sb				Direct	Survival			
Current	0.52	0.29	1994 WY	0.697	0.001	0.696	0.710	0.980	0.003	0.106	0.697	0.796	0.084	
	0.52	0.29	1995 WY	0.817	0.114	0.703	0.717	0.980	0.403	0.140	0.817	0.796	0.111	
	0.52	0.29	1996 WY	0.823	0.100	0.724	0.739	0.980	0.383	0.139	0.824	0.796	0.110	
	0.52	0.29	1997 WY	0.863	0.094	0.769	0.785	0.980	0.437	0.144	0.863	0.796	0.114	
	0.52	0.29	1998 WY	0.803	0.068	0.735	0.750	0.980	0.272	0.131	0.803	0.796	0.104	
	0.52	0.29	1999 WY	0.719	0.069	0.650	0.663	0.980	0.205	0.118	0.719	0.796	0.094	
	0.58	0.29	1994 WY	0.697	0.001	0.696	0.710	0.980	0.003	0.118	0.697	0.796	0.094	
	0.58	0.29	1995 WY	0.817	0.114	0.703	0.717	0.980	0.403	0.152	0.817	0.796	0.121	
	0.58	0.29	1996 WY	0.823	0.100	0.724	0.739	0.980	0.383	0.151	0.824	0.796	0.120	
	0.58	0.29	1997 WY	0.863	0.094	0.769	0.785	0.980	0.437	0.157	0.863	0.796	0.125	
	0.58	0.29	1998 WY	0.803	0.068	0.735	0.750	0.980	0.272	0.144	0.803	0.796	0.114	
	0.58	0.29	1999 WY	0.719	0.069	0.650	0.663	0.980	0.205	0.130	0.719	0.796	0.103	
Mean										0.136	0.787		0.108	
Aggressive	0.52	0.29	1994 WY	0.723	0.001	0.722	0.737	0.980	0.004	0.110	0.723	0.851	0.093	
	0.52	0.29	1995 WY	0.766	0.291	0.476	0.486	0.980	0.566	0.157	0.767	0.851	0.133	
	0.52	0.29	1996 WY	0.794	0.220	0.574	0.586	0.980	0.531	0.151	0.794	0.851	0.128	
	0.52	0.29	1997 WY	0.804	0.235	0.569	0.581	0.980	0.560	0.155	0.804	0.851	0.131	
	0.52	0.29	1998 WY	0.716	0.206	0.510	0.520	0.980	0.430	0.137	0.716	0.851	0.117	
	0.52	0.29	1999 WY	0.666	0.196	0.469	0.479	0.980	0.376	0.128	0.665	0.851	0.109	
	0.58	0.29	1994 WY	0.723	0.001	0.722	0.737	0.980	0.004	0.122	0.723	0.851	0.104	
	0.58	0.29	1995 WY	0.766	0.291	0.476	0.486	0.980	0.566	0.165	0.767	0.851	0.140	
	0.58	0.29	1996 WY	0.794	0.220	0.574	0.586	0.980	0.531	0.161	0.794	0.851	0.137	
	0.58	0.29	1997 WY	0.804	0.235	0.569	0.581	0.980	0.560	0.164	0.804	0.851	0.140	
	0.58	0.29	1998 WY	0.716	0.206	0.510	0.520	0.980	0.430	0.146	0.716	0.851	0.124	
	0.58	0.29	1999 WY	0.666	0.196	0.469	0.479	0.980	0.376	0.136	0.665	0.851	0.116	
Mean										0.144	0.745	0.851	0.123	
4-Pool Drawdown	0.52	0.29	1994 WY	0.355	0.355	0.000	0.000	0.980	0.355	0.103	0.355	0.851	0.088	
	0.52	0.29	1995 WY	0.709	0.709	0.000	0.000	0.980	0.709	0.207	0.709	0.851	0.176	
	0.52	0.29	1996 WY	0.705	0.705	0.000	0.000	0.980	0.705	0.205	0.705	0.851	0.175	
	0.52	0.29	1997 WY	0.683	0.683	0.000	0.000	0.980	0.683	0.199	0.683	0.851	0.169	
	0.52	0.29	1998 WY	0.615	0.615	0.000	0.000	0.980	0.615	0.179	0.615	0.851	0.152	
	0.52	0.29	1999 WY	0.641	0.641	0.000	0.000	0.980	0.641	0.186	0.641	0.851	0.159	
	0.58	0.29	1994 WY	0.355	0.355	0.000	0.000	0.980	0.355	0.103	0.355	0.851	0.088	
	0.58	0.29	1995 WY	0.709	0.709	0.000	0.000	0.980	0.709	0.207	0.709	0.851	0.176	
	0.58	0.29	1996 WY	0.705	0.705	0.000	0.000	0.980	0.705	0.205	0.705	0.851	0.175	
	0.58	0.29	1997 WY	0.683	0.683	0.000	0.000	0.980	0.683	0.199	0.683	0.851	0.169	
	0.58	0.29	1998 WY	0.615	0.615	0.000	0.000	0.980	0.615	0.179	0.615	0.851	0.152	
	0.58	0.29	1999 WY	0.641	0.641	0.000	0.000	0.980	0.641	0.186	0.641	0.851	0.159	
Mean										0.180	0.618	0.851	0.153	

## Aggressive Project Survival

	LGR	LGO	LMN	IHR	MCN	JDA	TDI	BON	Total	MCN-BDI
1994 WY	0.758	0.818	0.879	0.851	0.812	0.673	0.877	0.798	0.177	0.382
1995 WY	0.950	0.923	0.975	0.951	0.942	0.910	0.952	0.935	0.620	0.765
1996 WY	0.941	0.927	0.977	0.951	0.942	0.910	0.947	0.933	0.614	0.756
1997 WY	0.968	0.978	0.936	0.920	0.923	0.906	0.942	0.931	0.598	0.734
1998 WY	0.935	0.945	0.924	0.902	0.906	0.851	0.940	0.913	0.486	0.667
1999 WY	0.843	0.941	0.947	0.920	0.923	0.931	0.955	0.839	0.476	0.689
<b>Mean</b>									<b>0.495</b>	<b>0.664</b>

Free-Flowing Snake Survival

0.999656 Per-km (WB Only)  
210 km in Snake  
**0.930318** survival through Snake

Natural River Survival

0.999656                  Per-km (WB Only)  
               512                  km in FCRPS  
**0.838533**                  survival through FCRPS

**Table C-A2-42. Worksheet for the Snake River Steelhead incremental analysis, given EM = 0.743**

From SIMPAS 6/14/00 Results

1-Delayed Mort of Non- Trans.								Total Juv.				Check:		
Current	D	Year	To Salt In- River		To Salt Transport		Pt	Sb	Sd	Direct+	Total Juv.	Adult	Total Juv. * Adult	
			To Salt							Indirect		Direct	Survival	
0.52	0.26	1994 WY	0.697	0.001	0.696	0.710	0.980	0.003	0.093	0.697	0.796	0.796	0.074	
0.52	0.26	1995 WY	0.817	0.114	0.703	0.717	0.980	0.403	0.123	0.817	0.796	0.796	0.098	
0.52	0.26	1996 WY	0.823	0.100	0.724	0.739	0.980	0.383	0.123	0.824	0.796	0.796	0.098	
0.52	0.26	1997 WY	0.863	0.094	0.769	0.785	0.980	0.437	0.127	0.863	0.796	0.796	0.101	
0.52	0.26	1998 WY	0.803	0.068	0.735	0.750	0.980	0.272	0.116	0.803	0.796	0.796	0.092	
0.52	0.26	1999 WY	0.719	0.069	0.650	0.663	0.980	0.205	0.105	0.719	0.796	0.796	0.083	
0.58	0.26	1994 WY	0.697	0.001	0.696	0.710	0.980	0.003	0.104	0.697	0.796	0.796	0.083	
0.58	0.26	1995 WY	0.817	0.114	0.703	0.717	0.980	0.403	0.134	0.817	0.796	0.796	0.107	
0.58	0.26	1996 WY	0.823	0.100	0.724	0.739	0.980	0.383	0.134	0.824	0.796	0.796	0.106	
0.58	0.26	1997 WY	0.863	0.094	0.769	0.785	0.980	0.437	0.139	0.863	0.796	0.796	0.111	
0.58	0.26	1998 WY	0.803	0.068	0.735	0.750	0.980	0.272	0.127	0.803	0.796	0.796	0.101	
0.58	0.26	1999 WY	0.719	0.069	0.650	0.663	0.980	0.205	0.115	0.719	0.796	0.796	0.091	
Mean										0.120	0.787		0.095	
<hr/>														
<b>Aggressive</b>														
0.52	0.26	1994 WY	0.723	0.001	0.722	0.737	0.980	0.004	0.097	0.723	0.851	0.851	0.082	
0.52	0.26	1995 WY	0.766	0.291	0.476	0.486	0.980	0.566	0.139	0.767	0.851	0.851	0.118	
0.52	0.26	1996 WY	0.794	0.220	0.574	0.586	0.980	0.531	0.133	0.794	0.851	0.851	0.114	
0.52	0.26	1997 WY	0.804	0.235	0.569	0.581	0.980	0.560	0.137	0.804	0.851	0.851	0.116	
0.52	0.26	1998 WY	0.716	0.206	0.510	0.520	0.980	0.430	0.121	0.716	0.851	0.851	0.103	
0.52	0.26	1999 WY	0.666	0.196	0.469	0.479	0.980	0.376	0.113	0.665	0.851	0.851	0.096	
0.58	0.26	1994 WY	0.723	0.001	0.722	0.737	0.980	0.004	0.108	0.723	0.851	0.851	0.092	
0.58	0.26	1995 WY	0.766	0.291	0.476	0.486	0.980	0.566	0.146	0.767	0.851	0.851	0.124	
0.58	0.26	1996 WY	0.794	0.220	0.574	0.586	0.980	0.531	0.142	0.794	0.851	0.851	0.121	
0.58	0.26	1997 WY	0.804	0.235	0.569	0.581	0.980	0.560	0.145	0.804	0.851	0.851	0.124	
0.58	0.26	1998 WY	0.716	0.206	0.510	0.520	0.980	0.430	0.129	0.716	0.851	0.851	0.110	
0.58	0.26	1999 WY	0.666	0.196	0.469	0.479	0.980	0.376	0.120	0.665	0.851	0.851	0.102	
Mean										0.128	0.745	0.851	0.109	
<hr/>														
<b>4-Pool Drawdown</b>														
0.52	0.26	1994 WY	0.355	0.355	0.000	0.000	0.980	0.355	0.091	0.355	0.851	0.851	0.078	
0.52	0.26	1995 WY	0.709	0.709	0.000	0.000	0.980	0.709	0.183	0.709	0.851	0.851	0.155	
0.52	0.26	1996 WY	0.705	0.705	0.000	0.000	0.980	0.705	0.181	0.705	0.851	0.851	0.154	
0.52	0.26	1997 WY	0.683	0.683	0.000	0.000	0.980	0.683	0.176	0.683	0.851	0.851	0.150	
0.52	0.26	1998 WY	0.615	0.615	0.000	0.000	0.980	0.615	0.158	0.615	0.851	0.851	0.135	
0.52	0.26	1999 WY	0.641	0.641	0.000	0.000	0.980	0.641	0.165	0.641	0.851	0.851	0.140	
0.58	0.26	1994 WY	0.355	0.355	0.000	0.000	0.980	0.355	0.091	0.355	0.851	0.851	0.078	
0.58	0.26	1995 WY	0.709	0.709	0.000	0.000	0.980	0.709	0.183	0.709	0.851	0.851	0.155	
0.58	0.26	1996 WY	0.705	0.705	0.000	0.000	0.980	0.705	0.181	0.705	0.851	0.851	0.154	
0.58	0.26	1997 WY	0.683	0.683	0.000	0.000	0.980	0.683	0.176	0.683	0.851	0.851	0.150	
0.58	0.26	1998 WY	0.615	0.615	0.000	0.000	0.980	0.615	0.158	0.615	0.851	0.851	0.135	
0.58	0.26	1999 WY	0.641	0.641	0.000	0.000	0.980	0.641	0.165	0.641	0.851	0.851	0.140	
Mean										0.159	0.618	0.851	0.135	

## Aggressive Project Survival

	LGR	LGO	LMN	IHR	MCN	JDA	TDI	BON	Total	MCN-BDI
1994 WY	0.758	0.818	0.879	0.851	0.812	0.673	0.877	0.798	0.177	0.382
1995 WY	0.950	0.923	0.975	0.951	0.942	0.910	0.952	0.935	0.620	0.765
1996 WY	0.941	0.927	0.977	0.951	0.942	0.910	0.947	0.933	0.614	0.756
1997 WY	0.968	0.978	0.936	0.920	0.923	0.906	0.942	0.931	0.598	0.734
1998 WY	0.935	0.945	0.924	0.902	0.906	0.851	0.940	0.913	0.486	0.667
1999 WY	0.843	0.941	0.947	0.920	0.923	0.931	0.955	0.839	0.476	0.689
<b>Mean</b>									<b>0.495</b>	<b>0.664</b>

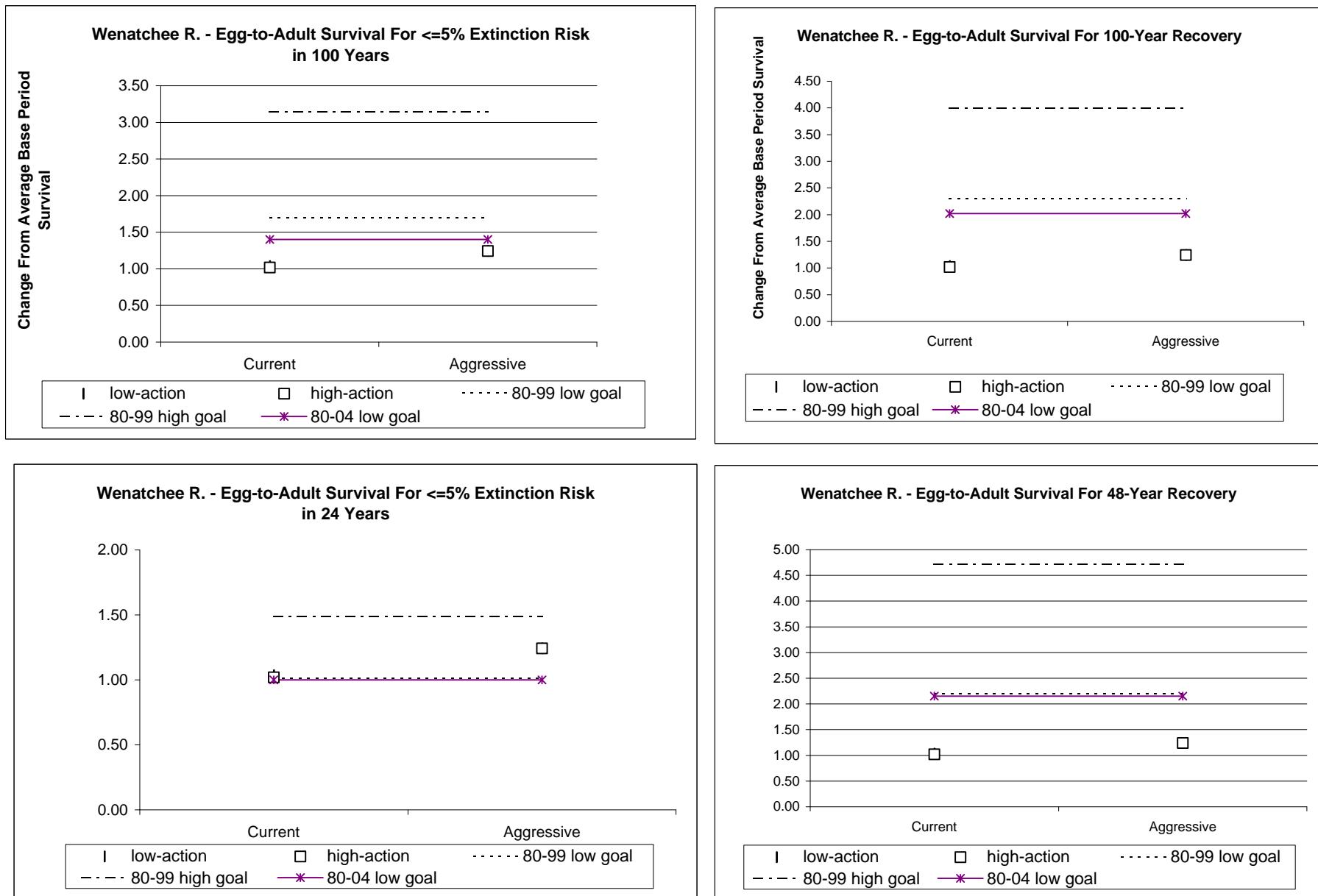
Free-Flowing Snake Survival

0.999656 Per-km (WB Only)  
210 km in Snake  
**0.930318** survival through Snake

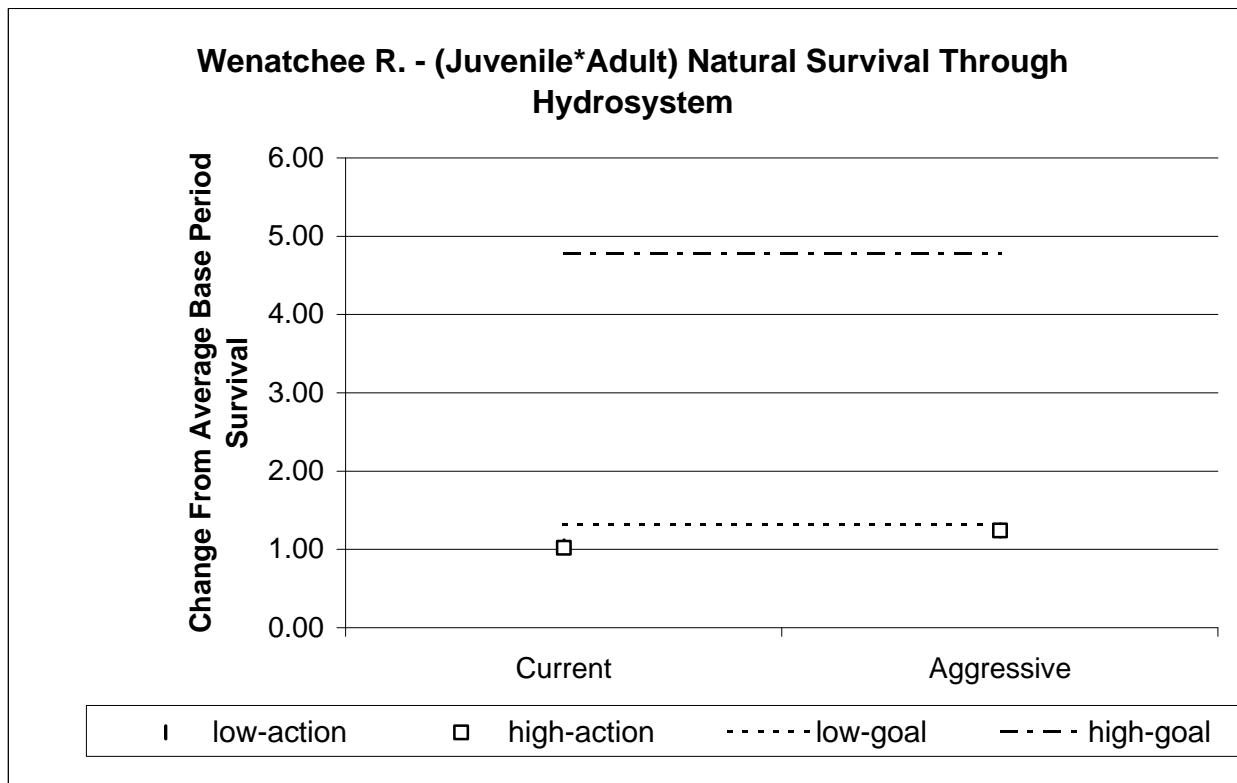
Natural River Survival

**0.999656** Per-km (WB Only)  
**512** km in FCRPS  
**0.838533** survival through FCRPS

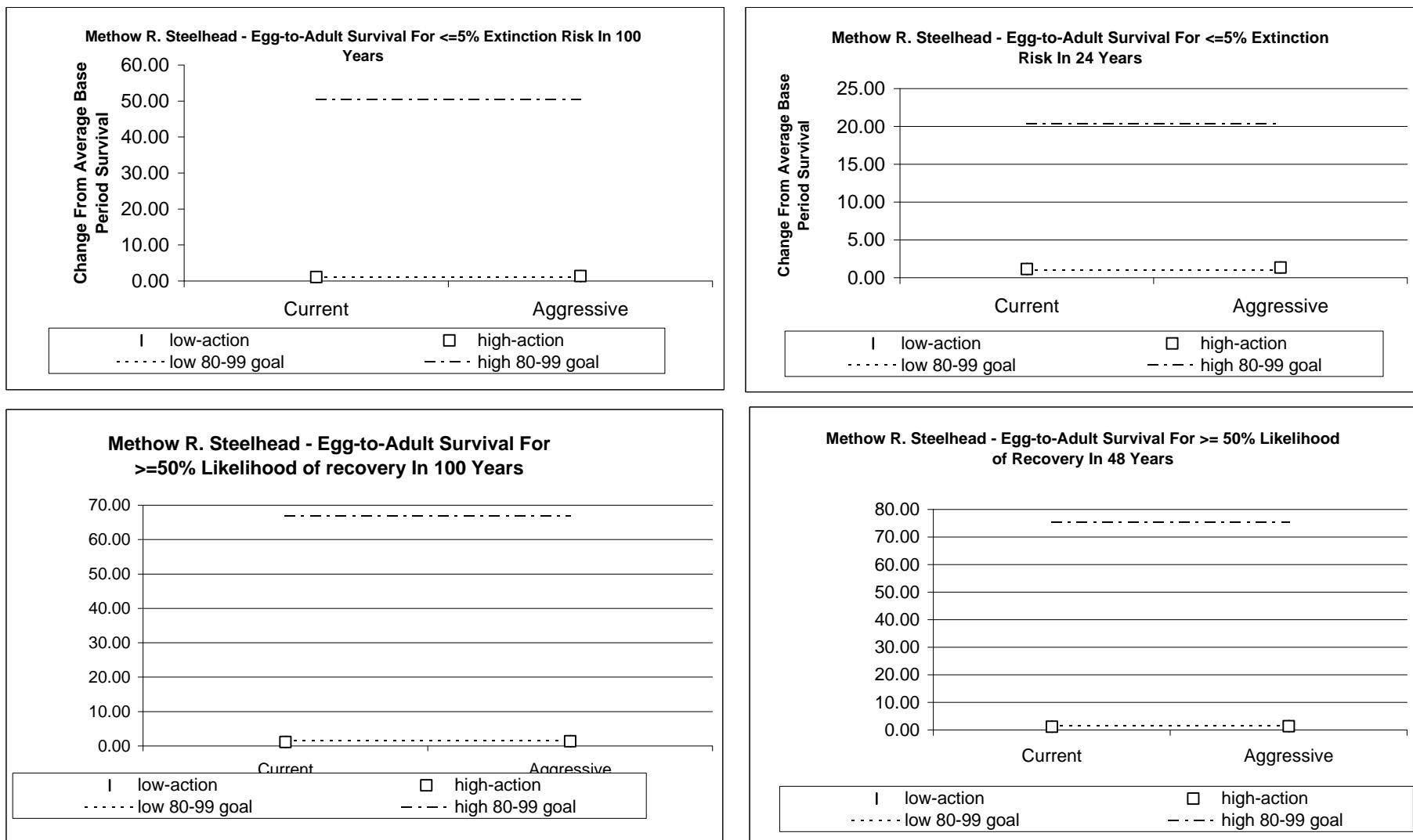
Figures C-A2-41 thorough C-A2-44. Needed survival changes from base period to achieve survival and recovery goals (horizontal lines) and changes from base period that are expected as a result of two actions for the UCR spring chinook Wenatchee River population.



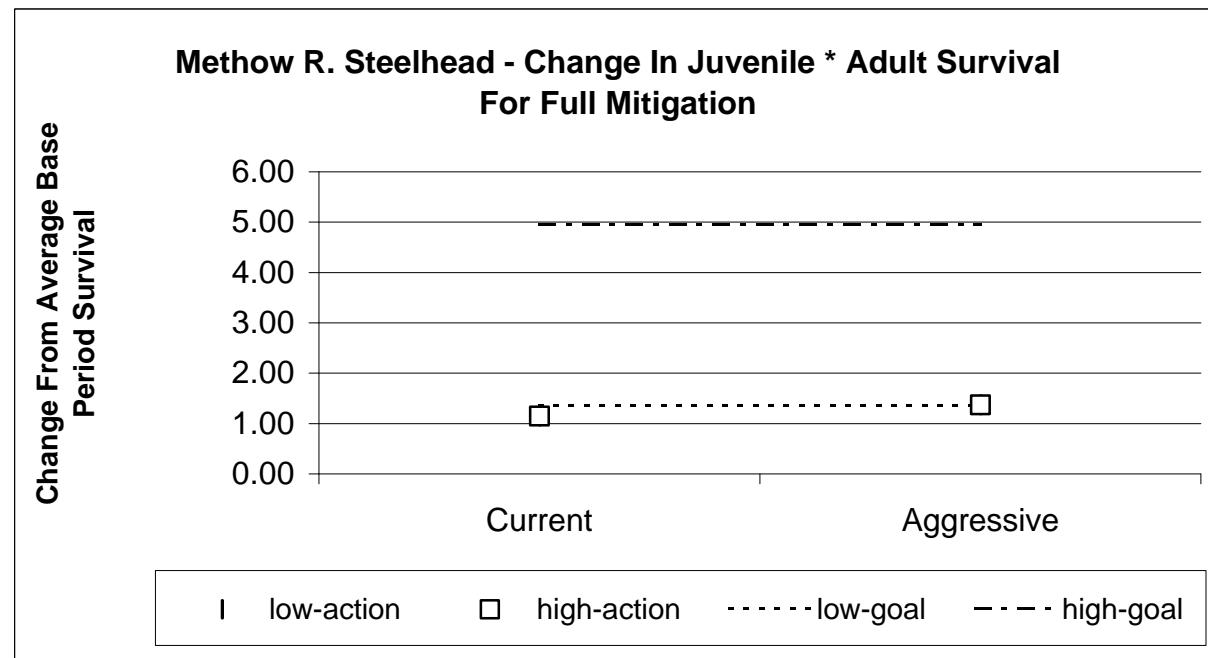
Figures C-A2-45. Needed survival changes from base period to achieve full mitigation goals (horizontal lines) and changes from base period that are expected as a result of two actions for the UCR spring chinook Wenatchee River population.



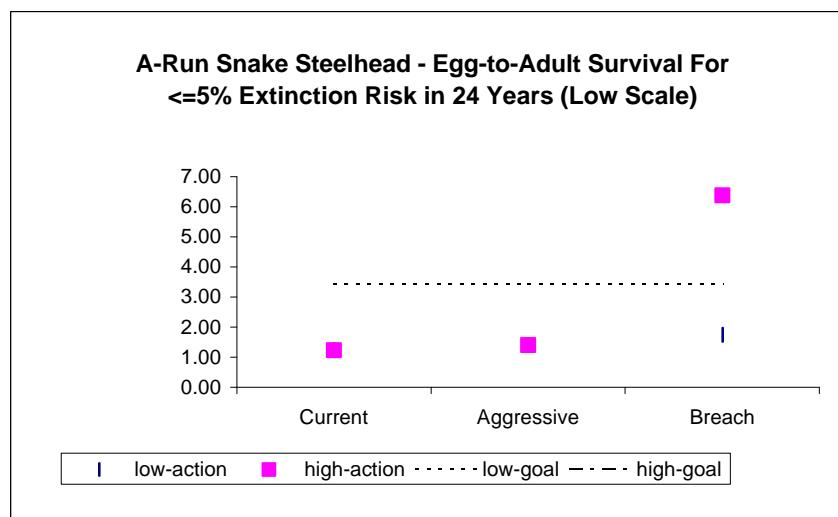
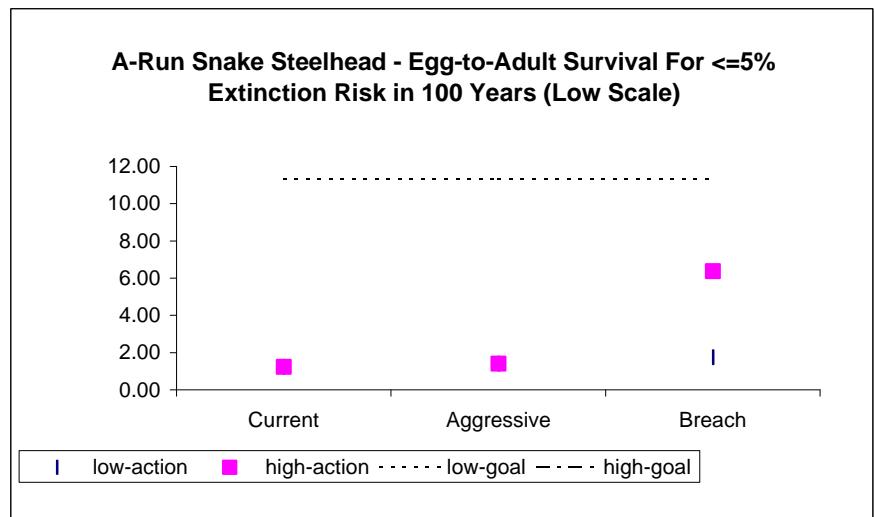
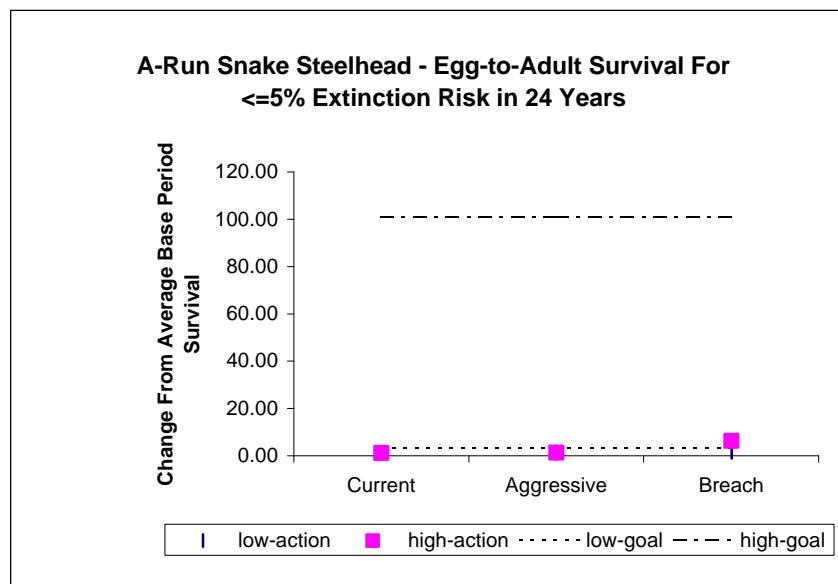
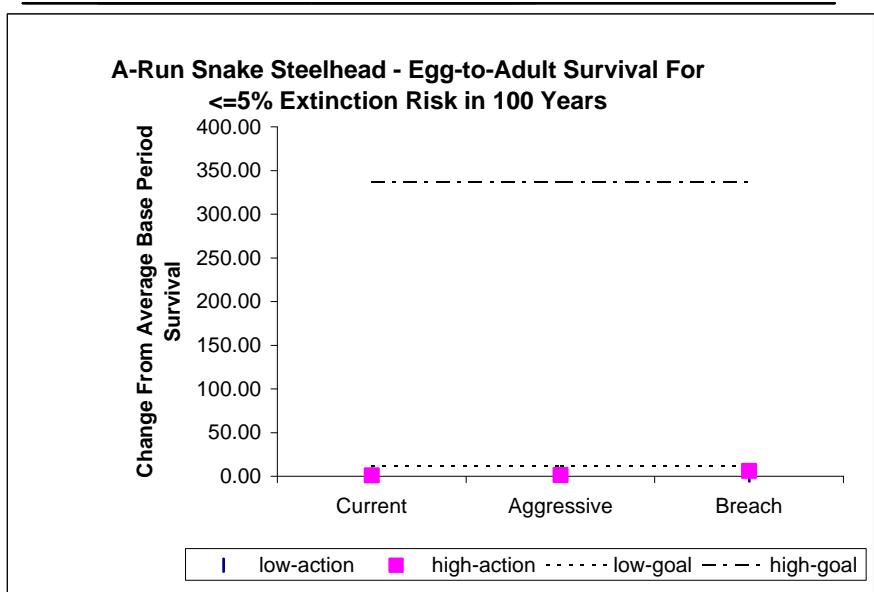
Figures C-A2-46 thorough C-A2-49. Needed survival changes from base period to achieve survival and recovery goals (horizontal lines) and changes from base period that are expected as a result of two actions for the UCR steelhead Methow River population.



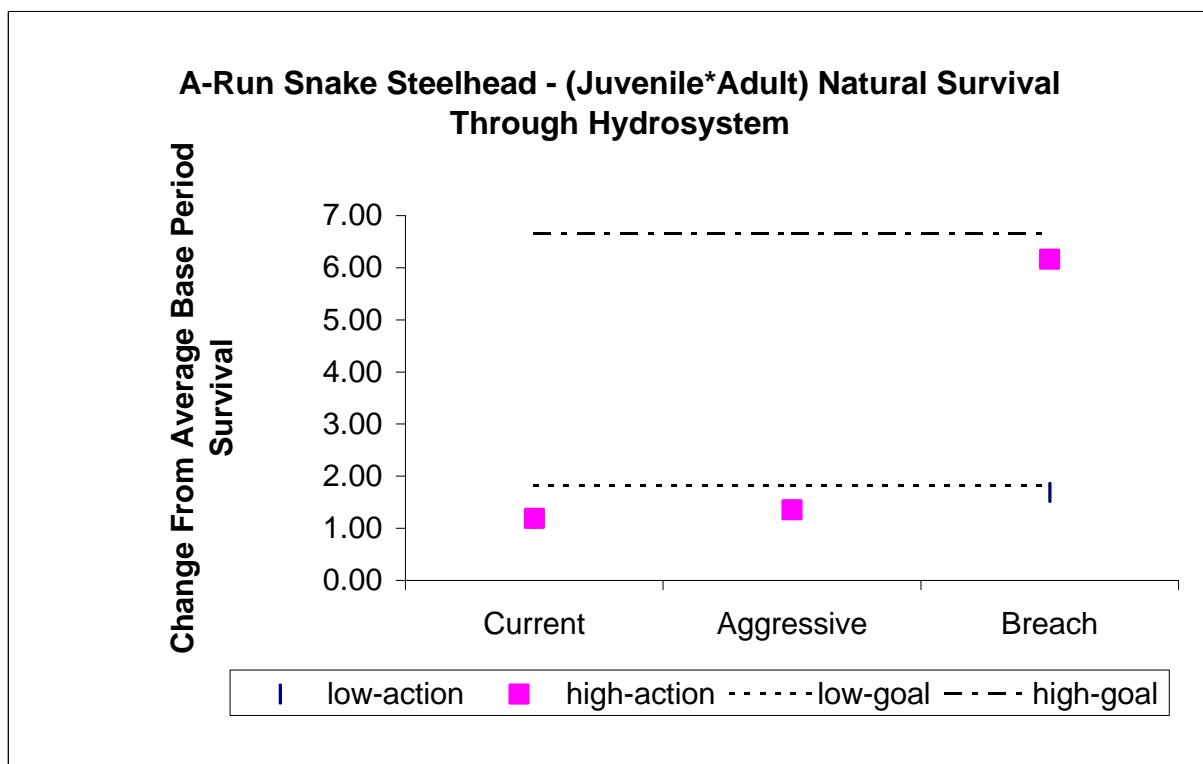
Figures C-A2-50. Needed survival changes from base period to achieve full mitigation goals (horizontal lines) and changes from base period that are expected as a result of two actions for the UCR steelhead Methow River population.



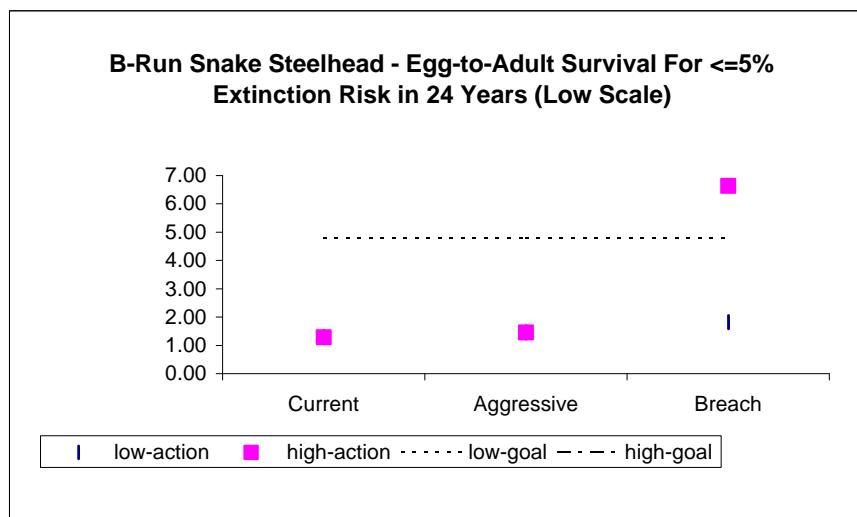
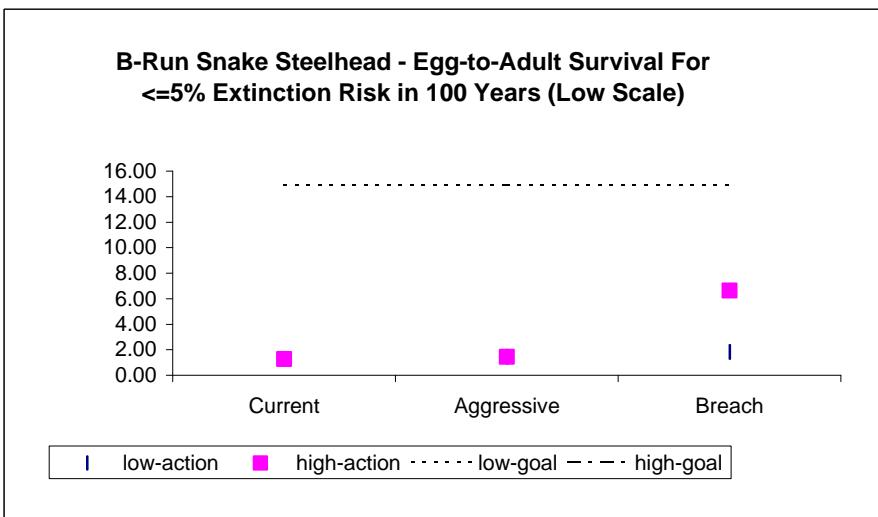
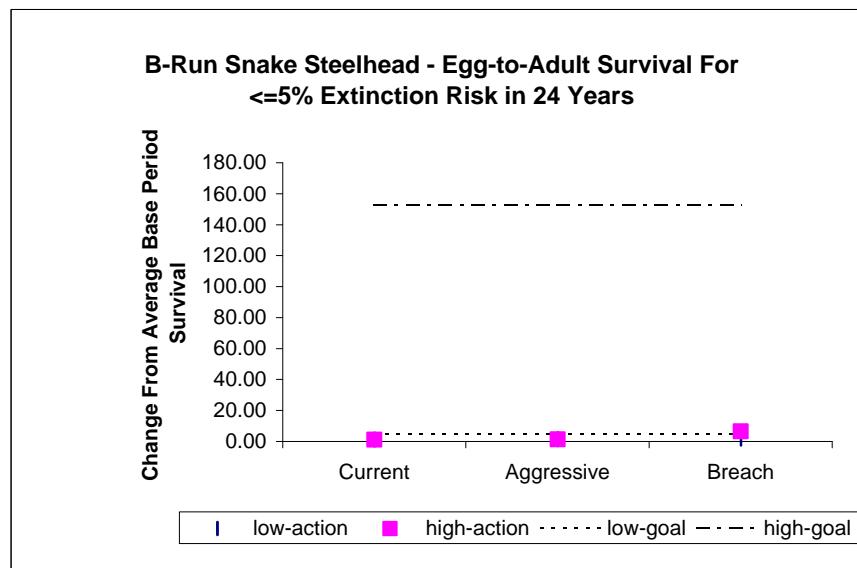
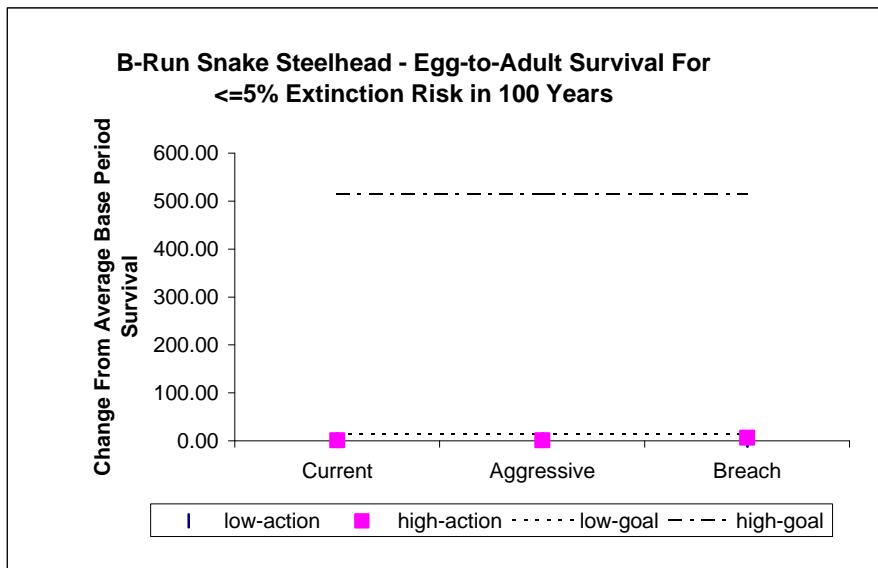
Figures C-A2-51 through C-A2-54. Needed survival changes from base period to achieve survival and recovery goals (horizontal lines) and changes from base period that are expected as a result of three actions for the Snake River Steelhead A Run.



Figures C-A2-55. Needed survival changes from base period to achieve full mitigation goals (horizontal lines) and changes from base period that are expected as a result of three actions for the Snake River SteelHead A-Run.



Figures C-A2-56 through C-A2-59. Needed survival changes from base period to achieve survival and recovery goals (horizontal lines) and changes from base period that are expected as a result of three actions for the Snake River Steelhead B Run.



Figures C-A2-60. Needed survival changes from base period to achieve full mitigation goals (horizontal lines) and changes from base period that are expected as a result of three actions for the Snake River SteelHead B-Run.

